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- t wall oscillation method comprising  
g an oscillating compressive force t  
includes a steady state force comp  
force component; and  
ing air pressure to a mouthpiece in  
patient's mouth with an oscillating  
and with a steady state air pressure  
direction and which has a mag  
counteract the steady state fo  
oscillating compressive force.

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The method of claim 3 wherein air pressure is applied to the mouthpiece to maintain a net average flow rate of the outlet port.

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applying an oscillating compressive force to a patient's chest which includes a steady state force component and an oscillating force component; and  
 supplying air pressure to a mouthpiece in communication with the patient's mouth to at least partially cancel the steady state force component and provide an oscillating air pressure component.

6. The method of claim 5 wherein the steady state air pressure component at least approximately equals a mean pressure exerted on the patient's chest by oscillating compressive force.

7. The method of claim 5 wherein the mouthpiece includes a mouthpiece chamber having a mouth port, an outlet port, and an air supply port through which the air pressure is supplied to the mouthpiece.

8. The method of claim 5 wherein air pressure is supplied to the air supply port of the mouthpiece to maintain a net average flow of air to the air supply port and out of the outlet port.

9. A chest wall oscillation system comprising:  
 a chest wall force applicator for applying to a patient's chest an oscillating compressive force having a steady state force component and an oscillatory force component;  
 a mouthpiece having a mouth port for positioning in communication with the patient's mouth, an outlet port and an air supply port;  
 an air pressure supply connected to the air supply port; and

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a control system which coordinates operation of the chest wall force applicator and the air supply so that the air supply provides air to the air supply port according to an air pressure waveform having a time-varying pressure component and having a steady state pressure component which at least partially cancels the steady state force component.

10. The system of claim 9 wherein air is supplied to the air supply port of the mouthpiece to maintain a net average flow of air to the air supply port and out of the outlet port.

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